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Medical Force Protection: Antigua

Medical Force Protection countermeasures required before, during, and after deployment to the "area" are as follows:

Major Threats

Diarrhea, respiratory diseases, injuries, dengue fever, other arthropod-borne infections, sexually transmitted diseases, heat injury, and limited risk of leptospirosis and Chaga's disease. Most of the various island water systems are supposedly safe for drinking, however, presume local water sources are not safe for drinking until cleared by US authorities.

Requirements before Deployment

1. **Before Deploying report to Medical to:**
   a. Ensure your Immunizations are up to date, specific immunizations needed for area: **Hepatitis A, Typhoid, Yellow fever, Tetanus (Td), MMR, and Influenza.**
2. **Malaria Chemoprophylaxis: Not required.**
3. **Get HIV testing if not done in the past 12 months.**
4. **Make sure you have or are issued from unit supply: DEET, permethrin, bednets/poles, sunscreen and lip balm. Treat utility uniform and bednet with permethrin.**

Requirements during Deployment

1. Consume food, water, and ice only from US-approved sources; **"Boil it, cook it, peel it, or forget it"**.
2. Involve preventive medicine personnel with troop campsite selection.
3. Practice good personal hygiene, hand-washing, and waste disposal.
4. Avoid sexual contact. If sexually active, use condoms.
5. Use DEET and other personal protective measures against insects and other arthropod-borne diseases. Personal protective measures include but are not limited to proper wear of uniform, use of bed nets, and daily "buddy checks" in tick and mite infested areas.
6. Minimize non-battle injuries by ensuring safety measures are followed. Precautions include hearing and eye protection, enough water consumption, suitable work/rest cycles, acclimatization to environment and stress management.
7. Eliminate food/waste sources that attract pests in living areas.
8. Avoid contact with animals and hazardous plants.

Requirements after Deployment

1. Receive preventive medicine debriefing after deployment.
2. Seek medical care immediately if ill, especially with fever.
3. Get HIV and PPD testing as required by your medical department or Task Force Surgeon.

ANTIGUA AND BARBUDA
VECTOR RISK ASSESSMENT PROFILE
(VECTRAP)

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1. GEOGRAPHY: **Area** - Antigua 281 sq. km. (108 sq. Mi); Barbuda 161 sq. km. (62 sq. mi.). **Cities** - ***Capital*** - St. Johns (pop. ca. 27,000). **Terrain** Generally low lying, with the highest elevation 1,330 ft. **Climate** Tropical Maritime. Antigua and Barbuda are located in the NE part of the Lesser Antilles. The islands are located 650 km (250 mi) SE of Puerto Rico. Antigua is composed of volcanic rock, coral, and limestone. Barbuda, north of Antigua, is a coral island with a large lagoon on one side. Both islands are bounded by the Atlantic Ocean and Caribbean Sea. The climate is tropical, but drier than most other Caribbean islands. Low humidity with an average rainfall of 105 cm (42 in).

2. VECTOR-BORNE DISEASES:

a. **MALARIA**: Well controlled.

b. **DENGUE FEVER**: Low risk at this time. No reports in recent years.

c. **LEPTOSPIROSIS**: Reported low incidence.

d. **SCHISTOSOMIASIS**: Reported low incidence.

2. **DISEASE VECTOR INFORMATION**:

a. *Aedes aegypti* is the vector of **dengue fever**. It breeds in natural and artificial containers, and is abundant year round. A daylight feeder, it often bites near ankle height and rests indoors.

b. Reservoirs for **leptospirosis** are farm and pet animals including cattle, dogs, horses, and swine. Rats and other rodents act as the normal carrier host.

c. **Schistosomiasis** is caused by a blood fluke (trematode), *Schistosoma* spp. Man is often the principal reservoir with the appropriate snail as the intermediate host.

3. **DISEASE AND VECTOR CONTROL PROGRAMS**:

a. Prevention and Control: The conscientious use of personal protective measures will help to reduce the risk of many vector-borne diseases. The most important personal protection measures include the use of DEET insect repellent on exposed skin, wearing permethrin-treated uniforms, and wearing these uniforms properly. The use of DEET 33% lotion (2 oz. tubes: NSN 6840-01-284-3982) during daylight and evening/night hours is recommended for protection against a variety of arthropods including mosquitoes, sand flies, other biting flies, fleas, ticks and mites. Uniforms should be treated with 0.5% permethrin aerosol clothing repellent (NSN 6840-01-278-1336), per label instructions. NOTE: This spray is only to be applied to trousers and blouse, <u>not</u> to socks, undergarments or covers. Reducing exposed skin (e.g., rolling shirt sleeves down, buttoning collar of

blouse, blousing trousers) will provide fewer opportunities for blood-feeding insects and other arthropods. Additional protection from mosquitoes and other biting flies can be accomplished by the use of screened eating and sleeping quarters, and by limiting the amount of outside activity during the evening/night hours when possible. Bednets (insect bar [netting]: NSN 7210-00-266-9736) may be treated with permethrin for additional protection.

b. During periods of high exposure of leptospirosis, utilize oral doxycycline for possible effective chemoprophylaxis. Contact NEPMU2 for recommendation of dosage.

c. In order to prevent exposure to schistosomiasis, personnel should utilize protective clothing such as rubber boots. To minimize cercarial penetration, towel dry vigorously, and completely dry skin surfaces that are wet with suspected water. For drinking, bathing, and washing clothes, provide water that is free of cercariae. Alternatively, treat the water to kill the cercariae.

d. The most important element of an *Aedes aegypti* control program is SOURCE REDUCTION. Eliminating or covering all water holding containers in areas close to human habitation will greatly reduce *A. aegypti* populations. Alternatively, containers may be emptied of water at least once a week to interrupt mosquito breeding. Sand or mortar can be used to fill tree holes and rock holes near encampments.

e. Education of personnel in disease and vector control programs should be fundamental for all methods of control.

4. **Important References**:

Contingency Pest Management Pocket Guide - Fourth Edition. Technical Information Memorandum (TIM) 24. Available from the Defense Pest Management Information Analysis Center (DPMIAC) (DSN: 295-7479 COMM: (301) 295-7479). Best source for information on vector control equipment, supplies, and use in contingency situations.

Control of Communicable Diseases Manual - Sixteenth Edition. 1995. Edited by A. S. Benenson. Available to government agencies through the Government Printing Office. Published by the American Public Health Association. Excellent source of information on communicable diseases.

Medical Environmental Disease Intelligence and Countermeasures - (MEDIC). September 1997. Available on CD-ROM from Armed Forces Medical Intelligence Center, Fort Detrick, Frederick, MD 21702-5004. A comprehensive medical intelligence product that includes portions of the references listed above and a wealth of additional preventive medicine information.

Internet Sites- Additional information regarding the current status of vector-borne diseases in this and other countries may be found by subscribing to various medical information sites on the internet. At the Centers of Disease Control and Prevention home page subscriptions can be made to the Morbidity and Mortality Weekly Report(MMWR)and the Journal of Emerging Infectious Diseases. The address is www.cdc.gov. The World Health Organization Weekly Epidemiology Report (WHO-WER) can be subscribed to at www.who.int/wer. The web site for PROMED is www.promedmail.org:8080/promed/promed.folder.home.
Although PROMED is not peer reviewed, it is timely and contains potentially useful information. The CDC and WHO reports are peer reviewed. Information on venomous arthropods such as scorpions and spiders as well as snakes, fish and other land animals can be found at the International Venom and Toxin Database website at www.uq.edu.au/~ddbfry/. Information on anti-venom sources can also be found at that site. Information on Poisonings, Bites and Envenomization as well as poison control resources can be found at www.invivo.net/bg/poison2.html.